

### REMARKS

Favorable reconsideration is respectfully requested.

The claims are 15 to 17.

Claims 15 to 17 have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

In this regard, the rejection states that to the extent that Applicants intend the "frustrum of pyramids" and "no space between the layers" to be limiting, this limitation is said to not be described in the specification in a way that demonstrates possession of the claimed invention.

This rejection is respectfully traversed.

Firstly, as set forth throughout the specification, for example, page 5, second full paragraph, there are numerous disclosures to the effect that the presently recited graphite nanospheres have a structure composed of a plurality of frustrums of pyramids with no spaces therebetween.

In this regard, the term "frustrum of pyramids" is used to define the structure of the nanosphere as shown in Fig. 2(a) of this application. A constituent element (constituent unit) in the nanosphere is shown in Fig. 2(b) as a "frustrum of a pyramid". The single nanosphere is divided into a plurality of the constituent elements for the sake of explaining the structure of the graphite nanosphere of this invention. The single graphite nanosphere of this invention is formed by bonding a plurality of the constituent elements so that no space is formed between the neighboring two constituent elements (neighboring frustrum of pyramids). In other words, a space is not formed between the neighboring constituent elements.

In the Declaration of record, Fig. 6 clearly shows a tightly packed surface with no spaces between the neighboring constituent elements i.e. neighboring frustrum of pyramids.

It is apparent from Fig. 2(a) and page 5, second paragraph of the present specification, for example, that there is no space between the respective elements. Therefore, there is express literal support for the terminology in issue.

If the rejection is questioning whether the disclosure is not believable or that figures are inaccurate and do not really depict what has been produced, no reasons have been given in

support of any such doubts. See In re Marzocchi, 169 USPQ 367 and 370 (CCPA 1971) and MPEP 2163.04 requiring an explanation of why the art-skilled would not recognize in applicants' disclosure, a description of the claimed invention.

Claims 15 to 17 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Journet et al. in view of Bandow and Iijima et al.

This rejection is respectfully traversed.

The citations merely aim to produce single-wall nanospheres or single-wall nanotubes. In other words, the structure recited in the present claims is unobviously different from that prepared by the cited references.

It was not obvious before the present invention that the graphite nanospheres could be produced in a high yield under high pressures within the pressure range (5 to 10 atms) defined in the present claims. In general, carbon is likely to be changed into a diamond or an amorphous-like diamond under high pressure. In addition, if graphite-like products are formed under insufficient pressure, it is not necessarily possible to produce products having substantially sphere-form.

Also, it was not obvious before the present invention that the graphite nanospheres can be produced in a high yield such as 90%. See e.g. page 9, third full paragraph of the Official Action. It is considered that the high yield of 90% can be attained owing to the uniformity of the energy distribution of the laser and the energy distribution of the vaporized carbon in a narrow region in this invention. See especially claim 16.

As previously discussed in the Response of September 6, 2007, carbon nanohorns are likely to be produced under inert gas pressure of 1 atm, and amorphous carbons are likely to be produced under the inert gas pressure lower than 1 atm. The parameter of the inert gas pressure is a very important factor in order to obtain the graphite nanospheres in a high yield.

In sum, none of the citations in the Final Rejection disclose or suggest the essential features of the presently claimed invention in order to obtain the graphite nanospheres in a high yield under high pressure.


For the foregoing reasons, it is apparent that the rejection on prior art is untenable and should be withdrawn.

No further issues remaining, allowance of this application is respectfully requested.

If the Examiner has any comments or proposals for expediting prosecution, please contact undersigned at the telephone number below.

Respectfully submitted,

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